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MINERALOGY¹.

MINERALS OF THE CRYOLITE GROUP FROM COLORADO.—W. Cross and W. F. Hillebrand,² who have previously described a number of interesting species from the vicinity of Pike's Peak, have identified cryolite and several allied fluorides from the same region, and have given a very exhaustive account of their method of occurrence, physical and crystallographic characters, and chemical relations. Cryolite occurs in massive aggregates of crystalline individuals, and when fresh has often a delicate pink or rose color. As products of alteration there occur pachnolite, thomsenolite, gearsutite, prosopite and probably ralstonite. These all occur in a vein of white quartz, near the base of St. Peter's dome. Astrophyllite and altered columbite occur at the same locality. The cryolite is decomposed where it adjoins the quartz, and is replaced by a massive mixture of pachnolite and thomsenolite, which is sometimes so far decomposed as to produce a white powder-like kaolin, which, when wet, makes a thick mud or paste. This kaolin-like substance is shown to be gearsutite. Under the microscope it is seen to consist of minute colorless needles. A chemical examination of the pachnolite, which occurs in distinct, colorless, transparent crystals upon the cryolite, proved that in chemical composition it was identical with thomsenolite. This result does not agree with that obtained by Groth and Brandl³ in a recent investigation upon the fluorine minerals.

In another quartz vein about one-third of a mile distant from the first locality, there were found zircon, kaolin, etc., a greenish-yellow mica and fluorite. Adjoining the quartz was an irregular zone of purple or green fluorite, and next to this a mass of a colorless mineral with two distinct cleavage planes, rarely occurring in minute crystals. This has been shown to be *prosopite*, a mineral heretofore known only in connection with the tin-bearing veins of Altenberg, Saxony. Prosopite was also found in minute crystals upon altered pachnolite in the quartz veins first mentioned. The identification of this rare species is of much interest. The authors deserve much credit for the care and skill which they have applied to the study of the minerals in the neighborhood of Pike's Peak.

THE URANIUM MINERALS—Heinrich Baron von Foullon has published⁴ an exhaustive paper on the decomposition products of uraninite, and on the chemical separation of uranium from lime and other substances, and comes to some important conclusions of interest to mineralogists. The uranium minerals examined are

¹ Edited by Professor H. CARVILL LEWIS, Academy of Natural Sciences, Philadelphia, to whom communications, papers for review, etc., should be sent.

² *Amer. Jour. Sc.*, Oct., 1883.

³ *Zeits. f. Kryst.*, VII.

⁴ *Jahrbuch d. K. K. Geolog. Reichsanstalt*, 1883, B. XXXIII, p. 17.

from both European and American localities, special attention, however, being given to the gummite and associated minerals from North Carolina. After a discussion of the various analyses made by different chemists, and an examination of the homogeneity of the specimens analyzed, it is concluded that the minerals known as eliasite, pittinite and coracite are mere varieties of gummite, not entitled to distinctive names, and that uranotil is identical with uranophane, and should therefore be dropped as a mineral species.

Both gummite and uranophane result from the alteration of uraninite (pechurane), and therefore very properly follow that species in the classification of some authors.

MINERALS FROM LEHIGH AND BERKS COUNTIES, PA. — E. F. Smith and D. B. Brunner¹ contribute a series of analyses of minerals which occur in Lehigh and Berks counties, Penna., and describe a number of new localities.

Allophane, occurs near Balliettsville, Lehigh county, in the form of white, mammillary, stalactitic incrustations upon iron ore. *Fluorite* is intimately mixed with the limestone about a mile and a half south-east of the above locality, presenting beautiful green, purple and pink colors. Perfect octahedra of deep purple color occur south of Emaus in the Lehigh mountains. *Zircon* was observed in minute crystals in quartz in Upper Milford township, Lehigh county. *Wavellite* from the same vicinity occurs in fine colorless, radiating nodules. Associated with it were clay-like nodules, sometimes showing a radiated structure, which have probably resulted from the alteration of wavellite. These appear to have no definite composition. *Corundum* in fine crystals, sometimes showing asterism, occurs in the same township. *Tourmaline*, *menaccanite* and *garnet* also occur here, and their analyses are given.

Other minerals from Lehigh county are *stilbite*, *pyrolusite* and *chloropal*, the latter being a soft yellowish green substance accompanying iron ore. The mineral is earthy and may be polished by friction.

In Berks county, new localities and analyses are given for *stilbite*, *deweylite*, *vesuvianite*, *titanite* and *brucite*. Vesuvianite and brucite were found at the now well-known mineral locality of Fritz island, near Reading. The latter mineral forms thin colorless laminæ in seams intersecting limestone.

MINERALOGICAL NOTES.—In the death of Professor J. Lawrence Smith, at Louisville, Ky., on October 12, American mineralogy loses one of its most eminent masters. His memoirs on corundum and emery, and his numerous physical and chemical investigations on meteorites, together with his many contributions to chemical mineralogy, have made his name well known to scientific

¹ *Amer. Chem. Journ.*, Sept., 1883.

men all over the world. In 1877 he described under the name of rogersite a mineral resulting from the alteration of samarskite. In the same year Daubrée, of Paris, named after him the mineral Lawrencite, a protochloride of iron first detected by Dr. Smith in meteorites. Dr. Smith has published in book form a collection of his memoirs of especial interest to mineralogists. He was one of the few American members of the Academy of Sciences of Paris.—At the American exhibition recently held in Boston, several States exhibited collections of minerals. North Carolina was especially well represented, making a large exhibit of beautiful and often rare species. Among the most noteworthy minerals were the following: *Gummite* in a mass weighing six and a half pounds; *uraninite* in masses of several pounds weight; crystals of *monazite*, *fergusonite* and *xenotime*; large masses of *allanite* and *samarските*, one specimen of the latter weighing five pounds; crystals of *emerald* over five inches long; brilliant prisms and geniculations of *rutile*; *quartz* showing basal and other rare planes; beautiful crystals of spodumene, beryl, etc.—The rare mineral *hörnseite*, a hydrous arseniate of magnesia, has probably been identified by M. E. Bertrand accompanying nagyagite from Nagyag, Transsylvania. The crystals of *hörnseite* are of a pale rose color, have a talcose cleavage and are quite soft.—According to the newspapers, "Missouri is said to have a new mineral, adamscolite, that cuts steel."—What was probably one of the richest finds of gold ever made in this country at one time, was discovered recently in Amador county, Cal., according to a paper published there, which says a pocket of quartz, found less than 100 feet below the surface, and containing about two tons in quantity, yielded from \$75,000 to \$100,000. Much of the quartz, it is represented, consisted of what were virtually chunks of gold.—Tin ore is reported to occur in Rockbridge county, Virginia. A vein of cassiterite, several inches in thickness, runs nearly east and west through a gneiss containing large crystals of feldspar with mica and quartz.

BOTANY.¹

A NEW SPECIES OF INSECT-DESTROYING FUNGUS (see AMER. NAT., Vol. xv, p. 52).

Entomophthora calopteni, n. sp.—I. Empusa stage, not seen.

II. Tarichium stage: Oöspores globular, or from pressure somewhat irregular in outline, colorless, 36 to 39 μ . in diameter; walls thick (4 μ .), colorless, smooth; protoplasm granular, often as if composed of many small cells, often with a large round vacuole.

Occurring as a clay-colored mass in the body cavity and femora of *Caloptenus differentialis*. Ames. Iowa, Aug. and Sept., 1883.

This is much like the species described by Peck (31st Report

¹ Edited by PROF. C. E. BESSEY, Ames, Iowa.